Customer No.: 31561
Application No.: 10/709,090
Docket No.:12029-US-PA

REMARKS

Present Status of the Application

The Office Action rejected all presently-pending claims 1-19. Specifically, the Office Action rejected claims 1-19 under 35 U.S.C. 103(a), as being unpatentable over Wu (U.S. Patent No. 5,260,818). Applicants have amended Claims 1 and 10 to improve the readability. Furthermore, Applicants have added Claims 20-21. After entry of the foregoing amendments, Claims 1-21 remain pending in the present application, and reconsideration of those claims is respectfully requested.

Discussion of Office Action Rejections

The Office Action rejected claims 1-19 under 35 U.S.C. 103(a), as being unpatentable over Wu (U.S. Patent No. 5,260,818). Applicants respectfully traverse the rejections for at least the reasons set forth below.

Independent claim 1 recites the features as follows:

> 1. A pixel structure, comprising:
> a scan line, disposed over a substrate;
> a data line, disposed over the substrate;
> an active component, disposed over the substrate adjacent to an intersection of the scan line and the data line, wherein the active component is electrically connected to the scan line and the data line;
> a plurality of transparent capacitance electrodes, disposed over the substrate, ***wherein the transparent capacitance electrodes comprises at least a first transparent capacitance electrode and at least a second transparent capacitance electrode disposed above the first transparent capacitance electrode***; and

a pixel electrode, disposed over the transparent capacitance electrodes and electrically connected to the active component, ***wherein the pixel electrode and the transparent capacitance electrodes constitute a multilayer pixel storage capacitor***.

(emphasis added).

Claims 2-9 also recite the similar features.

In re U.S. Patent No. 5,260,818, Wu discloses a pixel with two thin film transistors (20, 22) and two pixel electrodes (30A, 30B). Wu further discloses "Storage capacitor 50 is provided with a dielectric layer (not shown) sandwiched between pixel electrode 30 and capacitor plate 52" (See Col. 4, lines 18-20 and FIG. 4A). Specifically, each storage capacitor of the pixel disclosed by Wu is a two-layer structure, i.e. only one capacitor plate 52 is formed under the pixel electrode 30A or the pixel electrode 30B (See FIG. 4). Obviously, Wu fails to disclose that "***the second transparent capacitance electrode is disposed above the first transparent capacitance electrode***". In other words, the storage capacitor of the claimed invention is an n-layer structure ($n \geqq 3$). Therefore, Applicant considers that Claim 1-9 is patently distinguished from US 5,260,818.

In addition, Wu also fails to teach or suggest that the capacitor plate 52 can be formed of ITO or IZO. Accordingly, there is no evidence provided by the Examiner to prove that the capacitor plate formed of ITO or IZO is obvious. Therefore, Applicant considers that the

Examiner fails to establish Prima Facie Case of obviousness and Claim 1-9 is patentable over US 5,260,818.

Independent claim 10 recites the features as follows:

> 10. A manufacturing method, for a pixel structure, comprising:
> sequentially forming an active component, a scan line and a data line over a substrate, wherein the active component is electrically connected to the scan line and the data line;
> forming a plurality of transparent capacitance electrodes over the substrate, ***wherein the transparent capacitance electrodes comprises at least a first transparent capacitance electrode and at least a second transparent capacitance electrode formed above the first transparent capacitance electrode***; and
> forming a pixel electrode over the transparent capacitance electrodes, wherein the pixel electrode is electrically connected to the active component, ***wherein the pixel electrode and the transparent capacitance electrodes constitute a multilayer pixel storage capacitor***.
>
> ***(emphasis added).***

Claims 11-19 also recite the similar features.

In re U.S. Patent No. 5,260,818, Wu only discloses a pixel with two thin film transistors (20, 22) and two pixel electrodes (30A, 30B), but no manufacturing process of the pixel structure is disclosed. In fact, Applicant considers that one skilled artisan can not derive the manufacturing process claimed in Claims 11-19 from the pixel structure disclosed by Wu directly. In addition, Wu fails to disclose that "***the second transparent capacitance electrode is formed above the first transparent capacitance electrode***".

For at least the foregoing reasons, Applicant respectfully submits that independent claims 1, 10 and 20 patently define over the prior art references, and should be allowed. For at least the same reasons, dependent claims 2-9, 11-19 and 21 patently define over the prior art as well.

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CONCLUSION

For at least the foregoing reasons, it is believed that the pending claims 1-21 are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

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Respectfully submitted,

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